

602  
considered

cab 56. The projectors 54 are for providing a display on the screen 60 which is of the front projection type in that an image is reflected from the same surface on to which it is projected. As can be seen, the projectors 54 are positioned behind the mirror chamber 52. The front projection display screen 60 is utilised for receiving images from the projectors 54 as shown. The image formed on the front projection display screen 60 is viewed by the driver 58 via the collimating mirror 62, thus setting the apparent image distance at some value greater than the radius of the collimating mirror 62.

A marked up copy of the pages of the specification including the amendments is attached herewith.

#### REMARKS

The applicants appreciate the Examiner's thorough examination of the application and requests reexamination and reconsideration of the application in view of the preceding amendments and the following remarks.

The applicant inadvertently omitted a response to one of the grounds of objection raised by the Examiner in the April 24, 2001 Office Action. Specifically, the Examiner objected to the drawings because reference character "62" in Fig. 9 has been used to designate both the curved front projection screen and the collimating mirror. Applicant has corrected the error by amending the specification to make it clear that the curved front projection display screen is 60, while the collimating mirror is 62. Accordingly, applicant submits that the above amendment overcomes the § 112 objection.

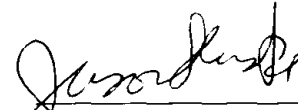
Additionally, the Office Actions states that Fig. 1 is objected to because it includes element 1, which is not mentioned in the description. However, in a telephone

conversation with the Examiner on October 17, 2001, the Examiner acknowledged that this objection was made in error.

Each of the Examiner's rejections has been addressed or traversed. Accordingly, it is respectfully submitted that the application is in condition for allowance. Early and favorable action is respectfully requested.

If for any reason this Response is found to be incomplete, or if at any time it appears that a telephone conference with counsel would help advance prosecution, please telephone the undersigned or his associates, collect in Waltham, Massachusetts, (781)890-5678.

Respectfully submitted,

  
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accepted for training for two reasons. Firstly, in the real world, drivers do not need to wear head gear. Secondly, visual performance of head mounted display based systems is not adequate, especially with regard to transport delay, compensation for head movement, and field-of-view. Furthermore, optical limitations may result in eye strain and sickness. Discomfort such as weight, centre of gravity and hygiene due to wearing the head mounted display may also be a problem.

Referring now to Figures 9 and 10, there is shown display apparatus 50 of the present invention. The display apparatus 50 comprises a curved front projection display screen ~~52~~<sup>60</sup>, a plurality of projectors 54, and a collimating mirror 62 which is formed from aluminised polyester film drawn to a partial vacuum using a chamber 52. One projector 54 is shown in Figure 9 for simplicity of illustration. Two projectors 54 are shown in Figure 10. Also shown in Figures 9 and 10 is a cab 56. Figure 9 shows a driver 58 in the cab 56. The projectors 54 are for providing a display on the screen 60 which is of the front projection type in that an image is reflected from the same surface on to which it is projected. As can be seen, the projectors 54 are positioned behind the mirror chamber 52. The front projection ~~surface~~<sup>display screen</sup> 60 is utilised for receiving images from the projectors 54 as shown. The image formed

on the front projection <sup>display screen</sup> ~~surface~~ 60 is viewed by the driver 58 via the collimating mirror 62, thus setting the apparent image distance at some value greater than the radius of the collimating mirror 62.

The projectors 54 are arranged outside the mirror chamber 52 and they fire radially inboard on to the front projection surface of the screen 60. The screen 60 can be produced at significantly less expense than the screen 28 shown in Figure 7. The projectors 54 can be liquid crystal display projectors or other low maintenance fixed matrix projectors.

The display apparatus 50 may present three problems in itself, these being as follows.

1. FOCUS

The reverse screen curvature is not the intended application for off-the-shelf lenses to be found on projectors. However, high F-number optics characteristic of fixed matrix projectors and appropriate techniques can be utilised to overcome this problem at low cost.

2. DISTORTION

The reverse screen curvature creates a problem in that it tends to form primarily pin cushion and trapezoidal distortion to the projected channel images. Distortion correction means may be employed to eliminate this problem. The distortion means may apply a bi-